

Epitomes

Important Advances in Clinical Medicine

Plastic Surgery

The Scientific Board of the California Medical Association presents the following inventory of items of progress in plastic surgery. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, research workers or scholars to stay abreast of these items of progress in plastic surgery that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on Plastic Surgery of the California Medical Association and the summaries were prepared under its direction.

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Craniofacial Surgery for Fractures

ONE of the major spin-offs of craniofacial surgery has been the development of new approaches for treating major fractures of the craniofacial skeleton. The use of these techniques has resulted in shorter hospital stays, a more stable reconstruction, fewer secondary steps in the final reconstruction and, perhaps most important, a much improved aesthetic result.

The primary approach is through a complete dissection of the involved areas, primarily through a bicoronal incision as in congenital craniofacial problems but using lacerations for access as well. Radiographic evaluation is of course helpful to define the areas but a complete computed tomographic scan will offer the most help in deciding where the fractures are located. It is especially important that the major facial supporting areas (orbital, nasofrontal, zygomatic and pterygo-maxillary buttresses) be adequately exposed, including the mandible when necessary. All of the bones thus exposed are then in a position to be carefully wired together in their proper position.

Areas of severe bone comminution or avulsion are bone grafted in the primary stage using split skull, split rib and iliac crest grafts as necessary. As a result of the meticulous repair of the fractures and using the strong supporting bone grafts contoured to obtain a normal anatomy, a stable craniofacial skeleton can be recreated that will rarely require extraskelatal fixation. In selected cases, mini-bone plates can be very helpful for the lower face and mandible, but they should be avoided as much as possible in areas of thin subcutaneous tissue such as the lateral orbital rims. Intermaxillary fixation can often be avoided by using the techniques described. The soft-tissue support thus obtained is one of the major factors for the improved results in these cases. All of the techniques known in congenital craniofacial operations must be used as necessary to reconstruct these areas of major acute injury. The lacrimal system has required additional operations for obstruction in only 17% of patients with injury to the area.

Complications have been amazingly few considering the degree of injury being treated by such techniques. Infection of soft and hard tissues has been the primary problem but sequestrums have only occurred in a small percentage in the two series reported. All of the medical specialties involved with the head would participate in the care for these complex injuries.

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REFERENCES

- Gruss JS: Naso-ethmoid-orbital fractures: Classification and role of primary bone grafting. *Plast Reconstr Surg* 1985 Mar; 75:303-317
- Gruss JS, Mackinnon SE, Kassel EE, et al: The role of primary bone grafting in complex craniomaxillofacial trauma. *Plast Reconstr Surg* 1985 Jan; 75:17-24
- Manson PN, Crowley WA, Yaremchuk MJ, et al: Midface fractures: Advances of immediate extended open reduction and bone grafting. *Plast Reconstr Surg* 1985 Jul; 76:1-12
- Manson PN, Hoopes JE, Su CT: Structural pillars of the facial skeleton: An approach to the management of Le Fort fractures. *Plast Reconstr Surg* 1980 Jul; 66:54-62

Facial Palsy

FACIAL NERVE PARALYSIS remains a difficult challenge for plastic and reconstructive surgeons. Vast strides in this field have been made in the past ten years due in no small part to the sophistication of microneurovascular techniques. Even patients with long-standing unilateral palsy may be able to regain symmetry in repose and in voluntary facial responses.

The myriad of techniques that have been advocated to deal with facial palsy attests to the fact that none have given perfect results. Following nerve transection, immediate or early direct repair or cable grafting provides the best results. If reinnervation from the proximal ipsilateral seventh nerve is not possible, another peripheral nerve must be provided. This, however, must be done within six to nine months of the injury to assure reinnervation by one year. After that time the muscles will have poor, if any, motion. The hypoglossal, spinal accessory and phrenic nerves have all been used, but most surgeons feel that the donor deficit produced is too great, the resultant facial movements gross, reeducated voluntary con-